

Wear and Abrasion of Materials for Fossil Energy Systems


Project Lead

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Description

The behavior of materials subjected to erosion has been studied extensively. A number of environmental and material factors have been identified which play a role in the erosion process. These include the velocity, size, angularity, hardness, stiffness, fracture toughness, and density of the eroding particles; the temperature and chemistry of the fluid transporting the particles; and the hardness, ductility, stiffness, and fracture toughness of the material being eroded. Models of erosion have been developed that relate these factors to the rate of erosion. However, there are several areas that still need to be investigated further. A better understanding of the micro-mechanical mechanisms by which wear fragments are removed from the eroded material is also needed, as well as a basic understanding of the mechanics of deformation during erosion.

Product Support Areas

Gasification Technologies	Combustion Technologies	Sequestration	Environmental & Water Resources	Advanced Turbine & Engines	Fuel Cells
					



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